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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/657,916
Filing Date: September 09, 2003
Appellant(s): RAPPOLD, ROBERT J.

Dan C. Hu
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 07/28/2009 appealing from the Office action mailed 03/04/2009.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection mailed 03/04/2009 contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

US 2004/0215604	Ivanov	10-2004
US 6,279030	Britton et al.	08-2001

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. **Claims 1-45** are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Ivanov Pub. No. US 2004/0215604 in view of Britton et al. Patent No. US 6,279,030.

As per **claim1**, Ivanov teaches the invention substantially as claimed, including a method for providing an extensible agent comprising:

receiving a request from a client as a query processor that receives a query command from a caller in an application (Abstract; page 1, paragraph [0014]; page 4, paragraph [0045]);

determining one or more environment characteristics as if the target data source 306, 308 is the WCS data source 306, the data source adapter 326 uses data source adapters of the WCS for establishing a connection and querying the WCS data source 306. If the target data source 306, 308 is the local data source 308, connections details for the data source 306, 308 are provided by the query command 314 to the data source adapter 326, for establishing the required connection and querying the data source 306, 308 (Fig. 3; page 4, paragraphs [0042, 0046]);

However, Ivanov does not explicitly teach

a) dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing; and

b) processing the client request using the selected agent components and according to one or more actions of the actions table that are planned and scheduled.

Britton et al. teach

a) **dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a**

relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing as dynamically selecting a program component based upon a user's authorization privileges, current working environment, preferences, network connection type, status, current values of changeable attributes or some combination thereof. The values of changeable attributes may be provided from a plurality of sources, including the user, configuration mechanisms on the user's machine, the network gateway, or a network database of user or group preferences and administrative policy information (Fig. 4; col. 3 line 40 – col. 4, line 42; col. 7 lines 26-34; col. 9 line 56 - col. 10 line 12).

b) processing the client request using the selected agent components and according to one or more actions of the actions table that are planned and scheduled as a servlet version satisfying the predicate records for the desired function would be invoked by a server, and the output of that servlet version returned to the client workstation as the result of processing the function. Or, a specific servlet may be invoked by the server, with the component selection process performed within that servlet. This selection process would determine which component to access (such as another servlet) in order to execute the desired version of functionality (col. 15 line 32 – col. 17 line 48).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ivanov and Britton et al. to dynamically select a program component and process the selected program component based on

user request, because it would allow software be optimized for particular users or groups of users, or particular environments of hardware and/or software, while still providing applications that are usable by a wide range of users in a wide range of operating environments.

As per **claim 2**, Ivanov further teaches **each agent component comprising an object defined in an object-oriented programming language** as Object Oriented Software (page 3, paragraph [0037]).

As per **claim 3**, Ivanov further teaches **instantiating the selected agent component objects** (page 3, paragraphs [0035-0036]).

As per **claim 4**, Ivanov further teaches the method of Claim 1 further comprising:

selecting one or more characteristics of the request (page 4, paragraphs [0045-0047]); and

wherein dynamically selecting at least a portion of a plurality of agent components based on the client request comprises **selecting at least a portion of agent components based on the selected request characteristics** (page 4, paragraph [0047]).

As per **claim 5**, Ivanov further teaches **storing the selected request characteristics in one of the selected agent components** (page 5, paragraph [0055]).

As per **claim 6**, Ivanov further teaches **one of the selected agent components comprising embedded structured query language (SQL) operable to query a database** (page 1, paragraph [0015]; page 5, paragraph [0055]).

As per **claim 7**, Ivanov further teaches the **client comprising a remote client and the client request is received through a web server** as each of the clients 106 communicates with the server 102 via the network 104. The network 104 may be embodied using one or more conventional networking technologies, including local area networks, wide area networks, intranets, public Internet, and the like (page 2, paragraph [0024]).

As per **claim 8**, Ivanov further teaches **communicating a web-enabled message to the remote client based on the processed request** (page 2, paragraphs [0024-0026]; page 3, paragraph [0033]).

As per **claim 9**, Ivanov further teaches **at least a portion of the agent components comprising objects based on a common parent class, the common**

parent class comprising component messaging logic and component locating logic as XML, DataBean (pages 3-4, paragraphs [0041-0043]; page 5, paragraph [0055]).

As per **claim 10**, Ivanov further teaches wherein **at least a portion of the plurality of agent components comply with Foundation for Intelligent Physical Agents (FIPA) standards** as DataBean, and data access objects (DAOs) (page 3; paragraph [0041]; page 4, paragraph [0044]).

As per **claim 11**, Ivanov further teaches **registering each instantiated agent component object** (page 3, paragraphs [0034, 0037]).

As per **claim 12**, Ivanov further teaches wherein dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics comprises:

automatically retrieving variable properties from a knowledgebase using the client request and the environment variables (page 1, paragraph [0008]); and

selecting at least a portion of the plurality of agent components based on the retrieved variable properties (page 4, paragraph [0044]).

As per **claim 13**, Ivanov further teaches wherein dynamically selecting at least a portion of the plurality of agent components based on the client request and the environment characteristics comprises **selecting at least a portion of the plurality of agent components based on a JAVA properties file** (page 5, paragraphs [000054-55]).

As per **claim 14**, Ivanov further teaches **the selected portion of the plurality of agent components operable to be executed in a non-web-enabled environment and a web-enabled environment** as local area networks, intranets, and internet (page 2, paragraphs [0024-0026]).

As per **claim 15**, Ivanov further teaches the method of Claim 1 further comprising:

migrating the plurality of agent components to an environment prior to receiving the request from the client (page 1, paragraph [0013]; page 2, paragraph [0027]; page 3, paragraph [0032]); and

wherein processing the client request using the selected agent components comprises automatically processing the client request using the selected agent components (page 1, paragraph [0014]; page 3, paragraph [0037).

As per **claim 16**, Ivanov teaches the invention substantially as claimed, including Software for providing an extensible agent, the software being embodied in a computer-readable medium and when executed operable to:

receiving a request from a client as a query processor that receives a query command from a caller in an application (Abstract; page 1, paragraph [0014]; page 4, paragraph [0045]);

determining one or more environment characteristics as if the target data source 306, 308 is the WCS data source 306, the data source adapter 326 uses data source adapters of the WCS for establishing a connection and querying the WCS data source 306. If the target data source 306, 308 is the local data source 308, connections details for the data source 306, 308 are provided by the query command 314 to the data source adapter 326, for establishing the required connection and querying the data source 306, 308 (Fig. 3; page 4, paragraphs [0042, 0046]);

However, Ivanov does not explicitly teach

a) dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing; and

b) processing the client request using the selected agent components and according to one or more actions of the actions table that are planned and scheduled.

Britton et al. teach

a) **dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing** as dynamically selecting a program component based upon a user's authorization privileges, current working environment, preferences, network connection type, status, current values of changeable attributes or some combination thereof. The values of changeable attributes may be provided from a plurality of sources, including the user, configuration mechanisms on the user's machine, the network gateway, or a network database of user or group preferences and administrative policy information (Fig. 4; col. 3 line 40 – col. 4, line 42; col. 7 lines 26-34; col. 9 line 56 - col. 10 line 12).

b) processing the client request using the selected agent components and according to one or more actions of the actions table that are planned and scheduled as a servlet version satisfying the predicate records for the desired function would be invoked by a server, and the output of that servlet version returned to the client workstation as the result of processing the function. Or, a specific servlet may be invoked by the server, with the component selection process performed within that servlet. This selection process would determine which component to access (such as another servlet) in order to execute the desired version of functionality (col. 15 line 32 – col. 17 line 48).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ivanov and Britton et al. to dynamically select a program component and process the selected program component based on user request, because it would allow software be optimized for particular users or groups of users, or particular environments of hardware and/or software, while still providing applications that are usable by a wide range of users in a wide range of operating environments.

As per **claim 17**, Ivanov further teaches **each agent component comprising an object defined in an object-oriented programming language** as Object Oriented Software (page 3, paragraph [0037]).

As per **claim 18**, Ivanov further teaches **operable to instantiating the selected agent component objects** (page 3, paragraphs [0035-0036]).

As per **claim 19**, Ivanov further teaches operable to

select one or more characteristics of the request (page 4, paragraphs [0045-0047]); and

wherein the software operable to dynamically select at least a portion of a plurality of agent components based on the client request comprises **the software operable to select at least a portion of agent components based on the selected request characteristics** (page 4, paragraph [0047]).

As per **claim 20**, Ivanov further teaches **operable to store the selected request characteristics in one of the selected agent components** (page 5, paragraph [0055]).

As per **claim 21**, Ivanov further teaches **one of the selected agent components comprising embedded structured query language (SQL) operable to query a database** (page 1, paragraph [0015]; page 5, paragraph [0055]).

As per **claim 22**, Ivanov further teaches **the client comprising a remote client and wherein the client request is received through a web server** as each of the clients 106 communicates with the server 102 via the network 104. The network 104 may be embodied using one or more conventional networking technologies, including local area networks, wide area networks, intranets, public Internet, and the like (page 2, paragraph [0024]).

As per **claim 23**, Ivanov further teaches **operable to communicate a web-enabled message to the remote client based on the processed request** (page 2, paragraphs [0024-0026]; page 3, paragraph [0033]).

As per **claim 24**, Ivanov further teaches **at least a portion of the agent components comprising objects based on a common parent class, the common parent class comprising component messaging and component location logic** as XML, DataBean (pages 3-4, paragraphs [0041-0043]; page 5, paragraph [0055]).

As per **claim 25**, Ivanov further teaches **wherein at least a portion of the plurality of agent components comply with Foundation for Intelligent Physical Agents (FIPA) standards** as DataBean, and data access objects (DAOs) (page 3; paragraph [0041]; page 4, paragraph [0044]).

As per **claim 26**, Ivanov further teaches **operable to register each instantiated agent component object** (page 3, paragraphs [0034, 0037]).

As per **claim 27**, Ivanov further teaches wherein the software operable to dynamically select at least a portion of a plurality of agent components based on the client request and the environment characteristics comprises the software operable to:

retrieve variable properties from a knowledgebase using the client request and the environment variables (page 1, paragraph [0008]); and

select at least a portion of the plurality of agent components based on the retrieved variable properties (page 4, paragraph [0044]).

As per **claim 28**, Ivanov further teaches wherein the software operable to dynamically select at least a portion of a plurality of agent components based on the client request and the environment characteristics comprises **the software operable to select at least a portion of the plurality of agent components based on a JAVA properties file** (page 5, paragraphs [000054-55]).

As per **claim 29**, Ivanov further teaches the selected portion of the plurality of agent components operable to be executed in a non-web-enabled environment and a web-enabled environment as local area networks, intranets, and internet (page 2, paragraphs [0024-0026]).

As per **claim 30**, Ivanov further teaches the software of Claim 16 further operable to:

migrate the plurality of agent components to an environment prior to receiving the request from the client (page 1, paragraph [0013]; page 2, paragraph [0027]; page 3, paragraph [0032]); and

wherein the software operable to process the client request using the selected agent components comprises the software operable to automatically process the client request using the selected agent components (page 1, paragraph [0014]; page 3, paragraph [0037).

As per **claim 31**, Ivanov teaches the invention substantially as claimed, including a server comprising:

a memory operable to store a database and a knowledgebase, the knowledgebase comprising a plurality of component selection patterns (page 2, paragraph [0027-0031]); and

one or more processors collectively operable to:

receiving a request from a client as a query processor that receives a query command from a caller in an application (Abstract; page 1, paragraph [0014]; page 4, paragraph [0045]);

determining one or more environment characteristics as if the target data source 306, 308 is the WCS data source 306, the data source adapter 326 uses data source adapters of the WCS for establishing a connection and querying the WCS data source 306. If the target data source 306, 308 is the local data source 308, connections details for the data source 306, 308 are provided by the query command 314 to the data source adapter 326, for establishing the required connection and querying the data source 306, 308 (Fig. 3; page 4, paragraphs [0042, 0046]);

However, Ivanov does not explicitly teach

a) dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing; and

b) processing the client request using the selected agent components and according to one or more actions of the actions table that are planned and scheduled.

Britton et al. teach

a) **dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing** as dynamically selecting a program component based upon a user's authorization privileges, current working environment, preferences, network connection type, status, current values of changeable attributes or some combination thereof. The values of changeable attributes may be provided from a plurality of sources, including the user, configuration mechanisms on the user's machine, the network gateway, or a network database of user or group preferences and administrative policy information (Fig. 4; col. 3 line 40 – col. 4, line 42; col. 7 lines 26-34; col. 9 line 56 - col. 10 line 12).

b) processing the client request using the selected agent components and according to one or more actions of the actions table that are planned and scheduled as a servlet version satisfying the predicate records for the desired function would be invoked by a server, and the output of that servlet version returned to the client workstation as the result of processing the function. Or, a specific servlet may be invoked by the server, with the component selection process performed within that servlet. This selection process would determine which component to access (such as

another servlet) in order to execute the desired version of functionality (col. 15 line 32 – col. 17 line 48).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ivanov and Britton et al. to dynamically select a program component and process the selected program component based on user request, because it would allow software be optimized for particular users or groups of users, or particular environments of hardware and/or software, while still providing applications that are usable by a wide range of users in a wide range of operating environments.

As per **claim 32**, Ivanov further teaches **each agent component comprising an object defined in an object-oriented programming language** as Object Oriented Software (page 3, paragraph [0037]).

As per **claim 33**, Ivanov further teaches the processors further operable to instantiate the selected agent component objects (page 3, paragraphs [0035-0036]).

As per **claim 34**, Ivanov further teaches the processors further operable to **select one or more characteristics of the request** (page 4, paragraphs [0045-0047]) and wherein the processors operable to dynamically select at least a portion of a plurality of agent components based on the client request comprise **the processors operable to**

select at least a portion of agent components based on the selected request characteristics (page 4, paragraph [0047]).

As per **claim 35**, Ivanov further teaches the processors further **operable to store the selected request characteristics in one of the selected agent components** (page 5, paragraph [0055]).

As per **claim 36**, Ivanov further teaches wherein **accessing data in the database using the selected agent components is performed by one of the selected agent components comprising embedded structured query language (SQL)** (page 1, paragraph [0015]; page 5, paragraph [0055]).

As per **claim 37**, Ivanov further teaches **the client comprising a remote client and wherein the client request is received through a web server** as each of the clients 106 communicates with the server 102 via the network 104. The network 104 may be embodied using one or more conventional networking technologies, including local area networks, wide area networks, intranets, public Internet, and the like (page 2, paragraph [0024]).

As per **claim 38**, Ivanov further teaches the processors further **operable to communicate a web-enabled message to the remote client based on the processed request** (page 2, paragraphs [0024-0026]; page 3, paragraph [0033]).

As per **claim 39**, Ivanov further teaches **at least a portion of the agent components comprising objects based on a common parent class, the common parent class comprising component messaging and component location logic** as XML, DataBean (pages 3-4, paragraphs [0041-0043]; page 5, paragraph [0055]).

As per **claim 40**, Ivanov further **teaches wherein at least a portion of the plurality of agent components comply with Foundation for Intelligent Physical Agents (FIPA) standards** as DataBean, and data access objects (DAOs) (page 3; paragraph [0041]; page 4, paragraph [0044]).

As per **claim 41**, Ivanov further teaches **the processors further operable to register each instantiated agent component object** (page 3, paragraphs [0034, 0037]).

As per **claim 42**, Ivanov further teaches wherein the processors operable to dynamically select at least a portion of a plurality of agent components based on the client request and the environment characteristics comprise the processors operable to:

retrieve variable properties from the knowledgebase using the client request and the environment variables (page 1, paragraph [0008]);

selecting one of the component selection patterns based on the retrieved variable properties (page 4, paragraph [0044]); and

select at least a portion of the plurality of agent components using the component selection pattern (page 3, paragraph [0037]).

As per **claim 43**, Ivanov further teaches wherein the processors operable to dynamically select at least a portion of a plurality of agent components based on the client request and the environment characteristics comprise **the processors operable to select at least a portion of the plurality of agent components based on a JAVA properties file** (page 5, paragraphs [000054-55]).

As per **claim 44**, Ivanov further teaches **the selected portion of the plurality of agent components operable to be executed in a non-web-enabled environment and a web-enabled environment as** local area networks, intranets, and internet (page 2, paragraphs [0024-0026]).

As per **claim 45**, Ivanov further teaches the processors further operable to:

migrate the plurality of agent components to an environment prior to receiving the request from the client (page 1, paragraph [0013]; page 2, paragraph [0027]; page 3, paragraph [0032]); and

wherein the processors operable to process the client request using the selected agent components comprises the software operable to automatically process the client request using the selected agent components (page 1, paragraph [0014]; page 3, paragraph [0037).

(10) Response to Argument

(A) Appellant argues that prior art does not teach "dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing"

As to point **(A)**, Examiner respectfully submits that Britton et al. teach the limitation "**dynamically selecting at least a portion of a plurality of agent components based on the client request and the environment characteristics, the at least a portion of the plurality of agent components being selected using a relational knowledgebase that comprises a properties table of properties for dynamic agent component selection and an actions table of actions for processing**" as a program component can be dynamically selected and downloaded, based on current values of one or more changeable attributes. The present invention provides a technique whereby multiple versions of a program component are available, and a specific version can be dynamically selected and downloaded based on current

attribute values. Attribute values may represent a user's authorization privileges, current working environment, preferences, network connection type, status, etc. The implementation of the software that dynamically selects and downloads components operates on a server in the network, as one or more modules, also referred to as code subroutines, or "objects" in object-oriented programming, which are invoked in response to a request for a component sent to the server by a client (col. 3, lines 24-53; col. 7, lines 23-33). A set of predicate records is created for each component. The predicate records are stored 402 in a predicate repository 430. Each predicate record specifies one or more predicates, set of target attribute values, related to selection of a version of a component (examiner interprets attributes values as equivalent to properties), and a reference that can be used to retrieve that version from the repository 430. A component reference may be specified as an executable command (using File Transfer Protocol, or "FTP", syntax, for example) that will be issued to retrieve the component if the predicates of that predicate record are satisfied (this is equivalent to actions for processing) (col. 10, lines 31-67). Therefore, Britton et al. read on the limitation as claimed.

(B) Appellant argues that **"a person of ordinary skill in the art would not have been prompted to combine the teachings of Ivanov and Britton."**

As to point **(B)**, in response to appellant's argument that **"a person of ordinary skill in the art would not have been prompted to combine the teachings of Ivanov and Britton"**, the examiner recognizes that obviousness can only be established by

combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Examiner stated that "It would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine the teaching of Ivanov and Britton et al. to dynamically select a program component and process the selected program component based on user request, because it would allow software be optimized for particular users or groups of users, or particular environments of hardware and/or software, while still providing applications that are usable by a wide range of users in a wide range of operating environments." The motivation Examiner provided is found in the Abstract of Britton et al. cited reference, and it is also well-known knowledge to one of ordinary skill in the art.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Conclusion

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Dung K Chau/
Examiner, Art Unit 2169

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